

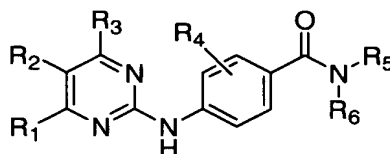
### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of claims**

What is claimed is:

1. (Previously Presented) A method for treating a condition responsive to inhibition of the JNK pathway, comprising administering to a patient in need thereof an effective amount of a compound having the structure:



or a pharmaceutically acceptable salt thereof,

wherein:

R<sub>1</sub> is aryl or heteroaryl optionally substituted with one to four substituents independently selected from R<sub>7</sub>;

R<sub>2</sub> and R<sub>3</sub> are the same or different and are independently hydrogen or lower alkyl;

R<sub>4</sub> represents one to four optional substituents, wherein each substituent is the same or different and independently is selected from halogen, hydroxy, lower alkyl or lower alkoxy;

R<sub>5</sub> and R<sub>6</sub> are the same or different and independently are -R<sub>8</sub>, -(CH<sub>2</sub>)<sub>a</sub>C(=O)R<sub>9</sub>, -(CH<sub>2</sub>)<sub>a</sub>C(=O)OR<sub>9</sub>, -(CH<sub>2</sub>)<sub>a</sub>C(=O)NR<sub>9</sub>R<sub>10</sub>, -(CH<sub>2</sub>)<sub>a</sub>C(=O)NR<sub>9</sub>(CH<sub>2</sub>)<sub>b</sub>C(=O)R<sub>10</sub>, -(CH<sub>2</sub>)<sub>a</sub>NR<sub>9</sub>C(=O)R<sub>10</sub>, -(CH<sub>2</sub>)<sub>a</sub>NR<sub>11</sub>C(=O)NR<sub>9</sub>R<sub>10</sub>, -(CH<sub>2</sub>)<sub>a</sub>NR<sub>9</sub>R<sub>10</sub>, -(CH<sub>2</sub>)<sub>a</sub>OR<sub>9</sub>, -(CH<sub>2</sub>)<sub>a</sub>SO<sub>c</sub>R<sub>9</sub>, or -(CH<sub>2</sub>)<sub>a</sub>SO<sub>2</sub>NR<sub>9</sub>R<sub>10</sub>;

or R<sub>5</sub> and R<sub>6</sub> taken together with the nitrogen atom to which they are attached to form a heterocycle or substituted heterocycle;

R<sub>7</sub> is at each occurrence independently halogen, hydroxy, cyano, nitro, carboxy, alkyl, alkoxy, haloalkyl, acyloxy, thioalkyl, sulfinylalkyl, sulfonylalkyl, hydroxyalkyl, aryl, substituted aryl, aralkyl, substituted aralkyl, heterocycle, substituted heterocycle, heterocyclealkyl, substituted heterocyclealkyl, -C(=O)OR<sub>8</sub>, -OC(=O)R<sub>8</sub>, -C(=O)NR<sub>8</sub>R<sub>9</sub>, -C(=O)NR<sub>8</sub>OR<sub>9</sub>, -SO<sub>c</sub>R<sub>8</sub>, -SO<sub>c</sub>NR<sub>8</sub>R<sub>9</sub>, -NR<sub>8</sub>SO<sub>c</sub>R<sub>9</sub>, -NR<sub>8</sub>R<sub>9</sub>, -NR<sub>8</sub>C(=O)R<sub>9</sub>,

$-\text{NR}_8\text{C}(=\text{O})(\text{CH}_2)_b\text{OR}_9$ ,  $-\text{NR}_8\text{C}(=\text{O})(\text{CH}_2)_b\text{R}_9$ ,  $-\text{O}(\text{CH}_2)_b\text{NR}_8\text{R}_9$ , or heterocycle fused to phenyl;

$\text{R}_9$ ,  $\text{R}_{10}$  and  $\text{R}_{11}$  are the same or different and at each occurrence are independently hydrogen, alkyl, substituted alkyl, aryl, substituted aryl, aralkyl, substituted arylalkyl, heterocycle, substituted heterocycle, heterocyclealkyl or substituted heterocyclealkyl;

$\text{R}_8$  is aryl, substituted aryl, aralkyl, substituted arylalkyl, heterocycle, substituted heterocycle, heterocyclealkyl or substituted heterocyclealkyl;

or  $\text{R}_8$  and  $\text{R}_9$  taken together with the atom or atoms to which they are attached to form a heterocycle or substituted heterocycle;

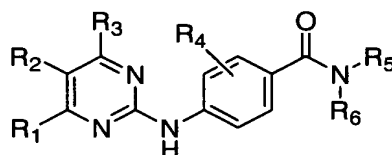
$a$  and  $b$  are the same or different and at each occurrence independently are selected from 0, 1, 2, 3 or 4; and

$c$  is at each occurrence 0, 1 or 2,

wherein the condition is atherosclerosis, restenosis following angioplasty, left ventricular hypertrophy, Type II diabetes, osteoporosis, erectile dysfunction, cachexia, myocardial infarction, ischemic diseases of heart, kidney, liver, and brain, organ transplant rejection, graft versus host disease, endotoxin shock, or multiple organ failure.

2-16. (Canceled)

17. (Currently Amended) A method for treating a condition comprising administering to a patient in need thereof an effective amount of a compound having the structure:



or a pharmaceutically acceptable salt thereof,

wherein:

$\text{R}_1$  is aryl or heteroaryl optionally substituted with one to four substituents independently selected from  $\text{R}_7$ ;

$\text{R}_2$  and  $\text{R}_3$  are the same or different and are independently hydrogen or lower alkyl;

R<sub>4</sub> represents one to four optional substituents, wherein each substituent is the same or different and independently selected from halogen, hydroxy, lower alkyl or lower alkoxy;

R<sub>5</sub> and R<sub>6</sub> are the same or different and independently are -R<sub>8</sub>, -(CH<sub>2</sub>)<sub>a</sub>C(=O)R<sub>9</sub>, -(CH<sub>2</sub>)<sub>a</sub>C(=O)OR<sub>9</sub>, -(CH<sub>2</sub>)<sub>a</sub>C(=O)NR<sub>9</sub>R<sub>10</sub>, -(CH<sub>2</sub>)<sub>a</sub>C(=O)NR<sub>9</sub>(CH<sub>2</sub>)<sub>b</sub>C(=O)R<sub>10</sub>, -(CH<sub>2</sub>)<sub>a</sub>NR<sub>9</sub>C(=O)R<sub>10</sub>, -(CH<sub>2</sub>)<sub>a</sub>NR<sub>11</sub>C(=O)NR<sub>9</sub>R<sub>10</sub>, -(CH<sub>2</sub>)<sub>a</sub>NR<sub>9</sub>R<sub>10</sub>, -(CH<sub>2</sub>)<sub>a</sub>OR<sub>9</sub>, -(CH<sub>2</sub>)<sub>a</sub>SO<sub>c</sub>R<sub>9</sub>, or -(CH<sub>2</sub>)<sub>a</sub>SO<sub>2</sub>NR<sub>9</sub>R<sub>10</sub>;

or R<sub>5</sub> and R<sub>6</sub> taken together with the nitrogen atom to which they are attached to form a heterocycle or substituted heterocycle;

R<sub>7</sub> is at each occurrence independently halogen, hydroxy, cyano, nitro, carboxy, alkyl, alkoxy, haloalkyl, acyloxy, thioalkyl, sulfinylalkyl, sulfonylalkyl, hydroxyalkyl, aryl, substituted aryl, aralkyl, substituted aralkyl, heterocycle, substituted heterocycle, heterocyclealkyl, substituted heterocyclealkyl, -C(=O)OR<sub>8</sub>, -OC(=O)R<sub>8</sub>, -C(=O)NR<sub>8</sub>R<sub>9</sub>, -C(=O)NR<sub>8</sub>OR<sub>9</sub>, -SO<sub>c</sub>R<sub>8</sub>, -SO<sub>c</sub>NR<sub>8</sub>R<sub>9</sub>, -NR<sub>8</sub>SO<sub>c</sub>R<sub>9</sub>, -NR<sub>8</sub>R<sub>9</sub>, -NR<sub>8</sub>C(=O)R<sub>9</sub>, -NR<sub>8</sub>C(=O)(CH<sub>2</sub>)<sub>b</sub>OR<sub>9</sub>, -NR<sub>8</sub>C(=O)(CH<sub>2</sub>)<sub>b</sub>R<sub>9</sub>, -O(CH<sub>2</sub>)<sub>b</sub>NR<sub>8</sub>R<sub>9</sub>, or heterocycle fused to phenyl;

R<sub>9</sub>, R<sub>10</sub> and R<sub>11</sub> are the same or different and at each occurrence are independently hydrogen, alkyl, substituted alkyl, aryl, substituted aryl, aralkyl, substituted arylalkyl, heterocycle, substituted heterocycle, heterocyclealkyl or substituted heterocyclealkyl;

R<sub>8</sub> is aryl, substituted aryl, aralkyl, substituted arylalkyl, heterocycle, substituted heterocycle, heterocyclealkyl or substituted heterocyclealkyl;

or R<sub>8</sub> and R<sub>9</sub> taken together with the atom or atoms to which they are attached to form a heterocycle or substituted heterocycle;

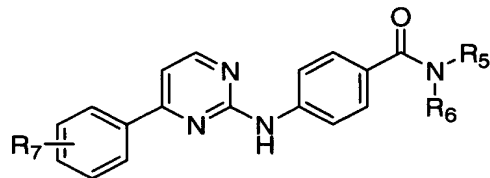
*a* and *b* are the same or different and at each occurrence independently selected from 0, 1, 2, 3 or 4; and

*c* is at each occurrence 0, 1 or 2,

wherein the condition is ~~atherosclerosis, restenosis following angioplasty, left ventricular hypertrophy, Type II diabetes, osteoporosis, erectile dysfunction, cachexia, myocardial infarction,~~ ischemic diseases of heart, kidney, liver, and or brain, ~~organ transplant rejection, graft versus host disease, endotoxin shock, or multiple organ failure.~~

18-26. (Canceled)

27. (Currently Amended) A method for treating a condition comprising administering to a patient in need thereof an effective amount of a compound having the structure:



or a pharmaceutically acceptable salt thereof,

wherein:

$R_5$  and  $R_6$  are the same or different and independently are  $-R_8$ ,  $-(CH_2)_aC(=O)R_9$ ,  $-(CH_2)_aC(=O)OR_9$ ,  $-(CH_2)_aC(=O)NR_9R_{10}$ ,  $-(CH_2)_aC(=O)NR_9(CH_2)_bC(=O)R_{10}$ ,  $-(CH_2)_aNR_9C(=O)R_{10}$ ,  $-(CH_2)_aNR_{11}C(=O)NR_9R_{10}$ ,  $-(CH_2)_aNR_9R_{10}$ ,  $-(CH_2)_aOR_9$ ,  $-(CH_2)_aSO_cR_9$ , or  $-(CH_2)_aSO_2NR_9R_{10}$ ;

or  $R_5$  and  $R_6$  taken together with the nitrogen atom to which they are attached to form a heterocycle or substituted heterocycle;

$R_7$  is at each occurrence independently halogen, hydroxy, cyano, nitro, carboxy, alkyl, alkoxy, haloalkyl, acyloxy, thioalkyl, sulfinylalkyl, sulfonylalkyl, hydroxyalkyl, aryl, substituted aryl, aralkyl, substituted aralkyl, heterocycle, substituted heterocycle, heterocyclealkyl, substituted heterocyclealkyl,  $-C(=O)OR_8$ ,  $-OC(=O)R_8$ ,  $-C(=O)NR_8R_9$ ,  $-C(=O)NR_8OR_9$ ,  $-SO_cR_8$ ,  $-SO_cNR_8R_9$ ,  $-NR_8SO_cR_9$ ,  $-NR_8R_9$ ,  $-NR_8C(=O)R_9$ ,  $-NR_8C(=O)(CH_2)_bOR_9$ ,  $-NR_8C(=O)(CH_2)_bR_9$ ,  $-O(CH_2)_bNR_8R_9$ , or heterocycle fused to phenyl;

$R_8$ ,  $R_9$ ,  $R_{10}$  and  $R_{11}$  are the same or different and at each occurrence are independently hydrogen, alkyl, substituted alkyl, aryl, substituted aryl, aralkyl, substituted arylalkyl, heterocycle, substituted heterocycle, heterocyclealkyl or substituted heterocyclealkyl;

or  $R_8$  and  $R_9$  taken together with the atom or atoms to which they are attached to form a heterocycle or substituted heterocycle;

$a$  and  $b$  are the same or different and at each occurrence independently selected from 0, 1, 2, 3 or 4; and

$c$  is at each occurrence 0, 1 or 2,

wherein the condition is ~~atherosclerosis, restenosis following angioplasty, left ventricular hypertrophy, Type II diabetes, osteoporosis, erectile dysfunction, cachexia,~~

~~myocardial infarction, ischemic diseases of heart, kidney, liver, and or brain, organ transplant rejection, graft versus host disease, endotoxin shock, or multiple organ failure.~~

28. (Previously Presented) The method of claim 1, wherein the condition is atherosclerosis, restenosis following angioplasty, left ventricular hypertrophy, erectile dysfunction or myocardial infarction.

29. (Previously Presented) The method of claim 1, wherein the condition is Type II diabetes.

30. (Previously Presented) The method of claim 1, wherein the condition is ischemic diseases of the heart, kidney, liver or brain.

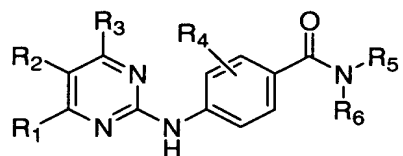
31. (Previously Presented) The method of claim 1, wherein the condition is osteoporosis.

32. (Previously Presented) The method of claim 1, wherein the condition is cachexia.

33. (Previously Presented) The method of claim 1, wherein the condition is transplant rejection, graft versus host disease, endotoxin shock or multiple organ failure.

34-45. (Canceled)

46. (New) A method of inhibiting JNK in a cell expressing JNK, comprising contacting a cell with an effective amount of a compound having the structure:



or a pharmaceutically acceptable salt thereof,  
wherein:

R<sub>1</sub> is aryl or heteroaryl optionally substituted with one to four substituents independently selected from R<sub>7</sub>;

R<sub>2</sub> and R<sub>3</sub> are the same or different and are independently hydrogen or lower alkyl;

R<sub>4</sub> represents one to four optional substituents, wherein each substituent is the same or different and independently is selected from halogen, hydroxy, lower alkyl or lower alkoxy;

R<sub>5</sub> and R<sub>6</sub> are the same or different and independently are -R<sub>8</sub>, -(CH<sub>2</sub>)<sub>a</sub>C(=O)R<sub>9</sub>, -(CH<sub>2</sub>)<sub>a</sub>C(=O)OR<sub>9</sub>, -(CH<sub>2</sub>)<sub>a</sub>C(=O)NR<sub>9</sub>R<sub>10</sub>, -(CH<sub>2</sub>)<sub>a</sub>C(=O)NR<sub>9</sub>(CH<sub>2</sub>)<sub>b</sub>C(=O)R<sub>10</sub>, -(CH<sub>2</sub>)<sub>a</sub>NR<sub>9</sub>C(=O)R<sub>10</sub>, -(CH<sub>2</sub>)<sub>a</sub>NR<sub>11</sub>C(=O)NR<sub>9</sub>R<sub>10</sub>, -(CH<sub>2</sub>)<sub>a</sub>NR<sub>9</sub>R<sub>10</sub>, -(CH<sub>2</sub>)<sub>a</sub>OR<sub>9</sub>, -(CH<sub>2</sub>)<sub>a</sub>SO<sub>c</sub>R<sub>9</sub>, or -(CH<sub>2</sub>)<sub>a</sub>SO<sub>2</sub>NR<sub>9</sub>R<sub>10</sub>;

or R<sub>5</sub> and R<sub>6</sub> taken together with the nitrogen atom to which they are attached to form a heterocycle or substituted heterocycle;

R<sub>7</sub> is at each occurrence independently halogen, hydroxy, cyano, nitro, carboxy, alkyl, alkoxy, haloalkyl, acyloxy, thioalkyl, sulfinylalkyl, sulfonylalkyl, hydroxyalkyl, aryl, substituted aryl, aralkyl, substituted aralkyl, heterocycle, substituted heterocycle, heterocyclealkyl, substituted heterocyclealkyl, -C(=O)OR<sub>8</sub>, -OC(=O)R<sub>8</sub>, -C(=O)NR<sub>8</sub>R<sub>9</sub>, -C(=O)NR<sub>8</sub>OR<sub>9</sub>, -SO<sub>c</sub>R<sub>8</sub>, -SO<sub>c</sub>NR<sub>8</sub>R<sub>9</sub>, -NR<sub>8</sub>SO<sub>c</sub>R<sub>9</sub>, -NR<sub>8</sub>R<sub>9</sub>, -NR<sub>8</sub>C(=O)R<sub>9</sub>, -NR<sub>8</sub>C(=O)(CH<sub>2</sub>)<sub>b</sub>OR<sub>9</sub>, -NR<sub>8</sub>C(=O)(CH<sub>2</sub>)<sub>b</sub>R<sub>9</sub>, -O(CH<sub>2</sub>)<sub>b</sub>NR<sub>8</sub>R<sub>9</sub>, or heterocycle fused to phenyl;

R<sub>9</sub>, R<sub>10</sub> and R<sub>11</sub> are the same or different and at each occurrence are independently hydrogen, alkyl, substituted alkyl, aryl, substituted aryl, aralkyl, substituted arylalkyl, heterocycle, substituted heterocycle, heterocyclealkyl or substituted heterocyclealkyl;

R<sub>8</sub> is aryl, substituted aryl, aralkyl, substituted arylalkyl, heterocycle, substituted heterocycle, heterocyclealkyl or substituted heterocyclealkyl;

or R<sub>8</sub> and R<sub>9</sub> taken together with the atom or atoms to which they are attached to form a heterocycle or substituted heterocycle;

*a* and *b* are the same or different and at each occurrence independently are selected from 0, 1, 2, 3 or 4; and

*c* is at each occurrence 0, 1 or 2.